

**SUPPLY CHAIN MANAGEMENT PRACTICES AND PERFORMANCE OF
PRIVATE HOSPITALS IN KENYA**

LUCY MUTINDI MUTUKU

**A PROJECT SUBMITTED TO THE SCHOOL OF MANAGEMENT AND
LEADERSHIP IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
THE AWARD OF THE DEGREE OF BACHELOR OF MANAGEMENT AND
LEADERSHIP (PURCHASING AND SUPPLIES) OF THE MANAGEMENT
UNIVERSITY OF AFRICA**

APRIL, 2025

DECLARATION AND RECOMMENDATION

Declaration

This project is my original work and has not been presented for a degree in any other University

Signature: Date:

Lucy Mutindi Mutuku
ODLBML/31/01721/3/23

Recommendations

This project has been submitted for examination with my approval as University Supervisor

Signature: Date:

Dr. Domeniter Kathula, PhD
The Management University of Africa
School of Management and Leadership

DEDICATION

I dedicate this project to my beloved husband, Felix and my children Emmanuel and Annabel for their selfless efforts towards being present during the entire proposal document.

ACKNOWLEDGEMENT

I thank God for granting this opportunity to advance my career throughout my education. My supervisor Dr. Domeniter Kathula has also been vital towards providing guidance on key concepts in this document. Additionally, special thanks also go to my spouse Felix and the whole family for their assistance, particularly ensuring I have the necessary environment conducive for learning. Furthermore, the other parties that have taken part in moral support include my workmates and the courses. They took their time to go through my proposal and ascertained that it was validly related to my field and contributed input that enhanced the write-up. Notably, the learning ambience provided by Management University of Africa (MUA) has also boosted my morale to push myself towards achieving the ultimate academic success at this level.

ABSTRACT

A private hospital is an organization that should be strategically led to ensure that all departments are well supplied with necessary medical and non-medical products to achieve organizational performance. However, there has been poor performance in Kenyan private hospitals. The general objective was to examine the effect of supply chain management practices and performance of private hospitals in Kenya. The specific objectives were to determine the influence of inventory management, demand forecasting, logistics management and supplier relationship on performance of private hospitals in Kenya. Resource-based view theory guided inventory management and logistics management variables. Contingency theory guided demand forecasting and stakeholder theory guided supplier relationships. The study adopted descriptive research design to measure the characteristics of the population without interfering with their operations. There 103 private hospitals in Kenya were considered as the unit of analysis. The target respondents included 103 procurement department heads and 380 supply chain officers. The respondents were sampled using simple random methods. This method was appropriate since it gave them equal opportunity to take part in the study and provided a scientific approach that was inclusive. In determining the sample size of both categories of staff, Yamene (1967) formula to result to 82 procurement department heads and 195 supply chain officers. Quantitative data was gathered in this study using the closed-ended questionnaires. A pilot study was conducted in Mama Lucy Public Hospital since it also experiences similar procurement issues affecting its performance just like in private hospitals. The pilot test respondents included 1 procurement departmental head and 5 supply chain officers. They were sampled using simple random sampling methods. Further, the study assessed the internal consistency through the Cronbach Alpha coefficient, while content validity was done through consulting the experts in the procurement field to ascertain if the questions asked were valid. Thereafter, the complete questionnaire's data was coded into SPSS version 26 for the analysis of descriptive statistics such as frequencies, percentages and mean. Thereafter, the results were presented using tables, figures and explanations. The study found out that inventory management had a positive influence on the performance of private hospitals. This was because of the strong policy framework that guided inventory management process and quality control measures put into place on medical supplies and consumables. It was also noted that demand forecasting influenced performance by reduction of resources through adept provision of required resources such as surgical supplies, based on the patient numbers in need. Furthermore, the study noted that logistic management practices made it possible to purchase and transport medical supplies on time, hence reducing inefficiencies. Lastly, supplier relationships were discovered to be relevant towards improving the performance of private hospitals. The relevance of suppliers enabled hospitals to have alternatives of medical and non-medical supplies, hence providing an avenue to consider costs, quality and quantities provided. The study recommends that there is a need for the management of private hospitals to provide more avenues that the supplies chains management can discuss on the issues affecting the inventory management processes. This could be through physical departmental meetings or online platforms provided at least once per week. Furthermore, the procurement staff should consider reaching out to departmental managers to provide any work dissatisfaction concerns, especially when they are a threat to the supply chains management process.

TABLE OF CONTENTS

DECLARATION AND RECOMMENDATION
DEDICATION.....
ACKNOWLEDGEMENT.....
ABSTRACT.....
LIST OF TABLES
LIST OF FIGURES
ACRONYMS AND ABBREVIATIONS.....
CHAPTER ONE 1
INTRODUCTION..... 1
1.0 Introduction..... 1
1.1 Background of the Study 1
1.2 Statement of the Problem..... 3
1.3 Objectives 5
1.4 Specific Objectives 5
1.5 Research Questions..... 5
1.6 Significance of final report of the study 6
1.7 Scope..... 6
1.8 Chapter Summary 7
CHAPTER TWO 8
LITERATURE REVIEW 8
2.0 Introduction..... 8
2.1 Theoretical Literature Review 8
2.2 Empirical Literature Review 10
2.3 Summary and Research Gaps 16
2.4 Conceptual Framework..... 20
2.5 Operationalization of Variables 21
2.6 Chapter Summary 22
CHAPTER THREE 23
RESEARCH METHODOLOGY 23
3.0 Introduction..... 23

3.1 Research Design.....	23
3.2 Target Population.....	23
3.3 Sampling Procedure	24
3.4 Instruments.....	25
3.5 Pilot Study.....	26
3.6 Data Collection Procedure	26
3.7 Data Analysis and Presentation	27
3.8 Ethical Considerations	27
3.9 Chapter Summary	28
CHAPTER FOUR.....	30
RESULTS AND DISCUSSION	30
4.0 Introduction.....	30
4.1 Presentation of Research Findings.....	30
4.2 Limitations of the Study.....	45
4.3 Chapter Summary	46
CHAPTER FIVE	47
SUMMARY, RECOMMENDATIONS AND CONCLUSIONS	47
5.0 Introduction.....	47
5.1 Summary of Findings.....	47
5.2 Recommendations.....	49
5.3 Conclusion	50
REFERENCES.....	51
APPENDICES	57
APPENDIX I: LETTER OF INTRODUCTION	57
APPENDIX II: RESEARCH STUDY QUESTIONNAIRE.....	58
APPENDIX III: INFORMED CONSENT FORM.....	63
APPENDIX IV: RESEARCH STUDY WORKPLAN.....	64
APPENDIX V: BUDGET.....	65

LIST OF TABLES

Table 1: Summary of Gaps	16
Table 2: Target Population.....	24
Table 3: Sampled Population	25
Table 4: Response Rate.....	30
Table 5: Reliability Results.....	31
Table 6: Descriptive Statistics of Performance of Private Hospitals	36
Table 7: Descriptive Statistics of Inventory Management.....	38
Table 8: Descriptive Statistics of Demand Forecasting.....	40
Table 9: Descriptive Statistics of Logistics Management.....	42
Table 10: Descriptive Statistics of Supplier Relationship	44

LIST OF FIGURES

Figure 1: Conceptual Framework	20
Figure 2: Operational Framework	21
Figure 3: Role in the Hospital	32
Figure 4: Work Experience	33
Figure 5: Level of Education	34

ACRONYMS AND ABBREVIATIONS

KEMSA	Kenya Medical Supplies Agency
MOH	Ministry of Health
MUA	Management University of Africa
USAID	United States Agency for International Development
WHO	World Health Organization

OPERATIONAL DEFINITION OF TERMS

Demand Forecasting- Prediction of possible requirement that will occur in the future

Inventory Management-The continuous actions of ordering, storing, utilizing medical and non-medical supplies

Logistic Management-The process of planning, organizing and accepting medical and non-medical goods.

Organizational Performance-The private hospital's capacity to employ its assets in delivering quality medical services hence attracting a huge number of patients for sustained revenue growth.

Supplier Relationship- The interactions that a private hospital has developed with individual or other organizations responsible for providing medical and non-medical supplies.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

The chapter provides the background of the study, statement of the problem, general objective, specific objectives, research questions, significance of the study scope and an overall chapter summary.

1.1 Background of the Study

Organizational performance is the ability of the private hospital to use its resources in delivering quality medical services hence attracting a huge number of patients for sustained revenue growth (USAID, 2024). In this study, performance was measured through two indicators which were quality of services and customer satisfaction (MOH, 2023a; USAID, 2024). Health, being a vital sector in the economy, requires ultimate seriousness in its implementation to facilitate customer satisfaction.

This is done through quality supplier management practices like inventory management, demand forecasting, logistic management and supplier relationship. Inventory management- the continuous actions of ordering, storing, utilizing medical and non-medical supplies (USAID, 2024). Demand Forecasting- prediction of possible requirement that will occur in the future (Atiende & Ndolo, 2025). Logistic management-The process of planning, organizing and accepting of medical and non-medical goods (Oketch et al., 2022). Supplier relationship- the interactions that a private hospital has developed with individual or other organizations responsible for providing medical and non-medical supplies (Alicke et al., 2021).

These elements promote quality services to promote general wellbeing of the strategic implementation through the leadership (Hallo & Obuba, 2021). Regrettably, private hospitals have been struggling with performance which is caused by supply chain management practices.

1.1.1 Global Perspective

Globally, private hospitals in America have continually faced low resource allocation to departments (Winkelmann et al., 2021). In Netherlands, ineffectiveness in operations and lack of ownership of inefficient supply issues in various departments, has been the greatest concern. In Asian nation such as India, poor communication and coordination of departments in placing order in the systems and using medical and non-medical supplies has been identified by Anil and Nisa (2023) as impediments facing private hospitals. In India, private hospitals have experienced inadequate procurement staff that aligns institutional goals with laid down health strategies (Kalita et al., 2023).

1.1.2 Regional Perspective

Regionally, political interference in South Africa with supply chain management processes in private hospitals has caused complete paralysis of the operations (Zungu, 2022). In Egypt the competitive business environment especially from other private hospitals had affected the acquisition of quality medical and non-medical supplies (Abdel-Satar et al., 2022).

1.1.3 Local Perspective

Locally in Kenya, Warui and Kavale (2024) noted that there was lack of adequate training on the most current supply chain management processes which has negatively affected the

performance of private hospitals. Further on, lack of an effective policy framework to support inventory management and poor commitment towards developing supplier relationships has led to inefficiencies in administering quality medical services.

1.1.4 Private Hospitals in Kenya

There were 103 private hospitals located in different counties and covered 38.87% of the healthcare institutions in Kenya (MOH, 2023b). They mainly provided healthcare alternatives to patients who would like more personalized care and enhanced treatment plans. However, private hospitals continue to experience challenges related to supply chain management practices (Owuor, 2024).

There has been low number of qualified staff that can be responsible in the entire process of placing orders, distribution to departments and monitor the usage of medical and non-medical supplies. Furthermore, the escalated inflation has caused medical supplies' costs to increase hence causing massive rationing of essential products which has resulted in declined performance of the private hospitals.

1.2 Statement of the Problem

A private hospital is an organization that should be strategically led to ensure that all departments are well supplied with necessary medical and non-medical products to achieve organizational performance (Atiende & Ndolo, 2025). There should be clear supply chain management practices that involve assigned staff to order, store, and furnish departments with products that they lack and monitor the level of usage to restock where necessary for continued performance.

However, there has been poor performance in Kenyan private hospitals due to inefficiencies. According to MOH (2023a), insufficiency of quality supply chain management practices impedes informed decision-making processes that lead to allocation of inadequate finances, poor recruitment of more qualified procurement staff, low acquisition of medical supplies and other key factors necessary for effective running of the hospitals (Mulauko et al., 2023). Thus, the study looked at how supply chain management techniques affected Kenyan private hospitals' performance.

Global studies such as (Habib et al., 2022; Priyanka et al., 2024; Subramanian, 2021) assessed the general supply chain management in hospitals, supplier relationships and effective demand forecasting in Bangladesh and India. Regional studies like (Kagoya & Mkwizu, 2022; Muhindo & Rwakihembo, 2021; Muzerwa & Ndolo, 2021) examined the contribution that e-logistic and inventory management practices had made in the performance of private hospitals located in Uganda and Burundi respectively. However, the studies experienced methodological gaps in sample selection. Another study by Bilal et al (2024) concentrated on public and not private pharmaceuticals supply chain in addressing the demand forecasting practices in Ethiopia.

Local studies like (Kabiro, 2023; Longilae & Wachiuri, 2024; Maingi, 2022) assessed the inventory management practices, demand forecasting in KEMSA and supply chain systems currently in place and their influence on performance in Nairobi and Migori based private hospitals, respectively. Furthermore, Osore et al., (2024) concentrated on supplier management practices in Uasin Gishu county's private hospitals. However, there were few studies that addressed supply chain from a wholistic view of all private hospitals in Kenya.

Therefore, the study examined the effect of supply chain management practices and performance of private hospitals in Kenya.

1.3 Objectives

To examine the effect of supply chain management practices and performance of private hospitals in Kenya.

1.4 Specific Objectives

- i. To determine the influence of inventory management on performance of private hospitals in Kenya.
- ii. To evaluate the influence of demand forecasting on performance of private hospitals in Kenya.
- iii. To examine the influence of logistics management on performance of private hospitals in Kenya.
- iv. To establish the influence of supplier relationships on performance of private hospitals in Kenya.

1.5 Research Questions

- i. What is the influence of inventory management on performance of private hospitals in Kenya?
- ii. How does demand forecasting influence the performance of private hospitals in Kenya?
- iii. What is the influence of logistics management on performance of private hospitals in Kenya?

- iv. In what way do supplier relationships influence the performance of private hospitals in Kenya?

1.6 Significance of final report of the Study

The government through the Ministry of Health [MOH] may get useful information related to the implication that various supply chain regulatory demands such as on quality of medicine, have on private hospitals' performance. The management of private hospitals may be able to ascertain how various policies related to supply chain management practices have been performed. Therefore, the current study may prove valuable and act as a yard stick to assessing the positive working policies and those that are not working. On the policies that are not working, the strategic management may base their decision making on this study to eliminate them or further restructure them.

The staff may find the study important as they would be obliged to provide their thoughts on the performance of the private hospitals from the challenges, they have faced related to inventory management, demand forecasting, logistic management and supplier relationships. They could therefore contribute positively by letting the management know the compelling challenges they have been undergoing while working in the hospital. The patients may gain foundational knowledge on how decision making related to supply chain management practices are made in a hospital set-up and how it impacts healthcare service delivery.

1.7 Scope

The study examined the relationship between private hospitals' performance and supply chain management strategies in Nairobi County, Kenya. Critical aspects like inventory

management, demand forecasting, logistic management and supplier relationship. Questionnaires were used as the main data collection instruments. The various respondents were procurement department heads and supply chain officers. The study was done within a period of one month in private hospitals found in Nairobi County.

1.8 Chapter Summary

The chapter provided the global regional and local problem affecting the performance of private hospitals. These problems have been restricted to relating to supply chain management practices. The statement of the problem linked poor performance to inefficiencies in inventory management, demand forecasting, logistic management and supplier relationship. Thereafter the significance of the study based on different stakeholders like MOH, management of private hospitals, staff and public has been given.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

The chapter provides the theoretical framework where two theories were described. Thereafter the empirical review of the study is also provided which is grouped based on the variables of the study. The conceptual framework concludes the chapter

2.1 Theoretical Literature Review

The study was guided by three theories which were resource-based view theory, contingency theory, and stakeholder theory.

2.1.2 Resource Based View Theory

Resource-based view theory was advanced by Wernefelt (1984) and guided inventory management and logistics management variables. Resource-based view theory claimed that internal resources inside any organization were available to be utilized and when efficiently utilized, it led to a competitive advantage against other organizations. The supply chain management resources used in private hospitals enabled them to support dispensation of medical services with ease as all required resources are provided (Osore et al., 2024).

In explaining inventory management, resource-based view theory guided that, when there are supplies management systems that can enable the hospital to have clear storage of medical supplies, a hospital is able to provide quality medical services (Priyanka et al., 2024). Notably, it becomes easier to acknowledge the subsidizing levels of commodities

and medical supplies for restocking. Additionally, consumables rates are also monitored and controlled effectively to ensure that patient's health needs are catered for. This is in terms of the provision of a balanced diet to satisfy the dietary requirements for effectiveness of treatment processes. According to Kabiro (2023), resources such as the availability and quality status of medical equipment are effectively managed through inventory management structures.

In logistic management, resource-based view theory guided that availability of movement systems within and out of a hospital set-up, enables clear processes such as waste management, transportation of medical supplies and procurement of medical supplies (Muhindo & Rwakihembo, 2021). The processes are efficiently done and provided when needed at different stages of offering medical supplies.

2.1.2 Contingency Theory

Contingency theory, developed by Vroom and Yetton (1978) and guided demand forecasting. It makes the case that there is no surefire method for a company to guarantee the success of its operations. Rather, the best management strategy relies on a number of variables or "contingencies" in the organization's internal and external environments.

Using contingency theory, demand forecasting pre-determined the extent to which preparations could be executed in realization of upcoming patient volume, future bed needs and surgical needs. These elements provided a road map for the implementation of clear supply chain management methods through established management system (Atiende & Ndolo, 2025). Further, decision making at various stages of medical provision services should involve the supply chain management department to avoid sudden absence of resources when needed at critical stages.

2.1.3 Stakeholder Theory

Stakeholder theory was developed by Freeman (1984) and guided relationships. It underpinned the need for an organization to consider the needs of all stakeholders and not just the shareholder's needs only. This ensured that the organization was able to contribute greatly to meeting the needs of society and achieving its goals. Therefore, in the context of the study, various supplier relationships were vital since they served the interests of the hospitals by providing key resources needed to run the operations (Osore et al., 2024). Therefore, their ability to intersect at a point of agreement through contracts management, collaborations, and quality control was founded on resource availability, payment plans and implementation goals from the management (Habanabakize & Wabala, 2024). Therefore, hospitals ascertained that the suppliers involved have shared interests with the goals of the hospitals when their demands were analyzed as key indicators on the urgency of settlement.

2.2 Empirical Literature Review

The study provided various literature done in relation to inventory management, logistic management, demand forecasting and supplier relationships.

2.2.1 Inventory Management and Performance

Muzerwa and Ndolo (2021) assessed how Burundi private hospitals performance was influenced by inventory management. A descriptive research design was used in this study, with a selection of seventy employees from Kira Hospital in Burundi using the census approach. Notably, questionnaires were employed in this study to gather information from participants.

The findings of the study showed that organizational performance was impacted by inventory management procedures. According to this study efficient inventory management techniques improved hospital performance by improving activity scheduling and planning, getting rid of unnecessary inventory, and reducing waste from excess inventory. These improvements improved the quality of services offered, the hospital's relationships with stakeholders, and the quality of services for consumers.

Muhindo and Rwakihembo (2021) examined how private hospitals in Western Uganda performance was influenced by inventory management. A cross-sectional research design was used in this study to gather information from thirty-two private hospitals. Notably, data from employees of these hospitals was gathered using surveys. The results of the study show that inventory management is a strong predictor of private hospitals' financial performance. The study recommended that private hospitals use robust and scientific inventory management models and systems that maximize stock levels and minimize costs in order to achieve notable financial performance. Muhindo and Rwakihembo (2021) did not provide an explanation of the selection process for study participants. As a result, the current study will provide a thorough explanation of the selection process for study participants.

Locally in Kenya, Kabiro (2023) investigated how private hospitals in Nairobi supply chain performance was affected by inventory management practices. This study employed a descriptive cross-sectional sectional design to gather data from 55 private hospitals in Nairobi using standardized questionnaires. The findings of the research indicated that private hospitals increased the effectiveness of their supply chains by implementing a strong inventory management system. According to this study, hospital administration

should host seminars and workshops to train staff members in stock control and how to use technology in these procedures. However, as the current study focused on the performance and inventory management of private hospitals in Kenya, the fact that this study was conducted in Nairobi creates a conceptual gap.

2.2.2 Logistic Management and Performance

In Bangladesh, Habib et al., (2022) assessed supply chain management in hospitals. Both primary and secondary data were gathered for this descriptive analysis from hospitals in Bangladesh. The study found that a hospital's purchasing, receiving, and stock management departments depend heavily on logistic management. It gives hospital administration real-time visibility into all processes, enabling them to make sensible choices. According to this study, hospitals deal with a variety of goods, each with unique distribution and storage needs, ranging from meals and bed linens to medications and surgical supplies. Furthermore, delivery schedules and the precision of these products' availability were crucial because any mistake or delay could gravely jeopardize patient health.

Kagoya and Mkwizu (2022) examined how Uganda's public referral hospitals supply chain management was influenced by e-logistic practice. Structured questionnaires were used to survey a sample of forty people from Ugandan public referral hospitals. The study determined that the three most important e-logistics operations in relation to the performance of health care supply chain management are the central management of medications, the appropriate order selection of medications given to the right patients for quality control, and the existence of an electronic system to update stock daily. However, this study was conducted in public hospitals in Uganda, therefore creating a conceptual gap for this study.

Maingi (2022) assessed how performance of Migori County healthcare was influenced by supply chain system. The research methodology used in the study was descriptive and included twenty-three hospitals. Notably, two hundred and seventy-five employees operate in the supply chain department of these hospitals. Hospital logistics was found to be a critical issue for ensuring the proper operation of hospitals and healthcare facilities. The integration of logistics information management systems, according to the study, plays a key role in ensuring that there are timely stocking of drugs and other requirements that are essential in ensuring that there is healthcare performance.

2.2.3 Demand Forecasting and Performance

Subramanian (2021) assessed how health supply chains were influenced by effective demand forecasting. Seventy-one publications were analyzed using a descriptive and content method as part of a systematic literature review. The study found that forecasting assists in identifying healthcare industry demand gaps and provides information to medical enabling them to devote resources to create solutions. According to this study, demand forecasting allows hospital management to anticipate patient volume in hospitals and provides an essential perspective on the proper planning of financial, human, and material resources.

Bilal et al., (2024) assessed demand forecasting practices in the Ethiopian public pharmaceutical supply chain and its challenges and the way forward. This study employed a cross-sectional research approach. Notably, the study participants were health professionals who were offering services at supply chain department in the hospital. This study selected seventeen respondents purposively and they were interviewed. Bilal et al., (2024) found out that Uncertainty about allocated funding for pharmaceutical procurement

and delays in budget releases were prevalent issues at the hospital level. According to the findings of this study, uncertainty in product procurement resulted from quantification exercises that were frequently carried out without knowledge of the budget. However, this study had a conceptual gap since it was conducted in Ethiopian pharmaceutical public supply chain, therefore, the current investigation was carried out in Kenyan private institutions.

Longilae and Wachiuri (2024) examined how Kenya Medical Supplies Authority performance was influenced by demand forecasting. This study used census method to select eighty staff members working in KEMSA's procurement and logistics department. Further data from the respondents was collected through structured questionnaires. Longilae and Wachiuri (2024) discovered that the performance of the Kenya Medical Supplies Authority was positively and significantly impacted by forecasting demand. The study also finds that trend prediction significantly and favorably affects the KEMSA performance. This study suggested that KEMSA should put into practice a thorough trend projection analysis that makes use of cutting-edge data analytics and forecasting methods. However, this study examined demand forecasting in KEMSA, one of Kenya's parastatals, resulting in a conceptual gap. For this reason, the current study evaluated the demand forecasting's effects on Kenyan private hospitals' performance.

2.2.4 Supplier Relationships and Performance

In India, Priyanka et al., (2024) assessed how developing countries hospital performance was enhanced through strategic implementation of supplier relationship. This study employed a model that was used to analyze the supplier relationships in various hospitals categories. The results of the study demonstrated that corporate hospitals, private hospitals,

and the central government all enhanced their use of supply chain management techniques with their suppliers. This study found that technology, communication, and supplier innovation practices were significant determinants of hospital supplier selection, which enhanced healthcare performance in developing countries. Priyanka et al., (2024) conducted the study in India therefore creating a conceptual gap, hence the current study was conducted in Kenya to assess how supplier relationships affect performance of private hospitals.

Habanabakize and Wabala (2024) examined how Rwanda Medical Supply Limited supply chain performance was influenced by supplier relationship management in Rwanda. This study employed an inferential and descriptive research design. Notably, the study's sample size consisted of two hundred and sixty-eight workers at Rwanda Medical Supply Limited, and data was gathered through questionnaires and interviews. Habanabakize and Wabala (2024) discovered that a good relationship with the suppliers is enhanced by good communication strategies among the key stakeholders in healthcare. The results of the study indicate that a favorable supplier connection in the healthcare industry affects a number of supply chain management factors, such as lead times, costs, innovation, risk management, and supplier collaboration. Therefore, the current study explored how supplier relationship influenced performance of private hospital in Kenya.

Osoe et al., (2024) assessed how private hospitals in Uasin Gishu City County performance was influenced by supplier management practices. In this study, a descriptive survey design was used. The findings of this study indicate that good supplier relationships improved that performance of private hospitals. The study indicated that Uasin Gishu, Kenya, has been able to make sensible decisions on priority and non-priority evaluations

due to their supplier relationship. Supplier collaboration enhances the planning team's quality and innovation. However, this study had a methodological gap because Osore et al., (2024) failed to elaborate how study participants were selected. Therefore, the current study provided a full description of how study participants were sampled.

2.3 Summary and Research Gaps

Table 1: Summary and Research Gaps

Summary of Gaps

Author	Topic	Methodology	Findings	Gaps	Focus of the Current Study
Muhindo and Rwakihembo (2021)	Examined how private hospitals in Western Uganda performance was influenced by inventory management	A cross-sectional research design was used in this study to gather information from thirty-two private hospitals. Notably, questionnaires were used to collect data from staff working in these hospitals	According to the study's findings, inventory management significantly predicts the financial results of private medical facilities. In order to attain noteworthy financial results, the study suggested that private hospitals should implement strong methods and systems for scientific inventory management that optimize stock levels and minimize expenses	Muhindo and Rwakihembo (2021), did not provide an explanation of the selection process for study participants.	The current study provided a thorough explanation of the selection process for study participants

Kabiro (2023)	Investigated how private hospitals in Nairobi supply chain performance was affected by inventory management practices	In this study, structured questionnaires were used to collect data, and a descriptive cross-sectional design was also used to examine fifty-five private hospitals in Nairobi.	The findings of the research indicated that private hospitals increased the effectiveness of their supply chains by implementing a strong inventory management system.	Kabiro (2023) carried out the study in Nairobi	The current study addressed the inventory management and performance of private hospitals in Kenya.
Kagoya and Mkwizu (2022)	Examined how Uganda's public referral hospitals supply chain management was influenced by e-logistic practice	A sample size of forty participants from public referral hospitals in Uganda were surveyed using structured questionnaires.	The study determined that the three most important e-logistics operations in relation to the performance of health care supply chain management are the central management of medications, the appropriate order selection of medications given to the right patients for quality control, and the existence of an electronic system to update stock daily.	Kagoya and Mkwizu (2022), conducted their study in public hospitals in Uganda.	The current study addressed the inventory management and performance of private hospitals in Kenya.
Bilal et al., (2024)	Assessed demand forecasting practices in the Ethiopian public	A cross-sectional research design was used in this study. Notably,	Found out that Uncertainty about allocated funding for pharmaceutical procurement and delays in budget releases were	Bilal et al., (2024), had conceptual gap since it was conducted in	The current study conducted in private

	pharmaceutical supply chain and its challenges and the way forward	the study participants were health professionals who were offering services at supply chain department in the hospital. This study selected seventeen respondents purposively and they were interviewed.	prevalent issues at the hospital level. According to the findings of this study, uncertainty in product procurement resulted from quantification exercises that were frequently carried out without knowledge of the budget	Ethiopian pharmaceutical public supply chain	hospitals in Kenya.
Longilae and Wachiuri (2024)	Examined how Kenya Medical Supplies Authority performance was influenced by demand forecasting.	This study used census method to select eighty staff members working in KEMSA's procurement and logistics department. Further data from the respondents was collected through structured questionnaires.	Discovered that the performance of the Kenya Medical Supplies Authority was positively and significantly impacted by forecasting demand. The study also finds that trend prediction significantly and favorably affects the KEMSA performance.	Longilae and Wachiuri (2024) examined demand forecasting in KEMSA, one of Kenya's parastatals, resulting in a conceptual gap.	The present investigation assessed the effects of demand forecasting on the performance of private hospitals in Kenya.

Priyanka et al., (2024)	Assessed how developing countries hospital performance was enhanced through strategic implementation of supplier relationship in India	This study employed a model that was used to analyze the supplier relationships in various hospitals categories	The results of the study demonstrated that corporate hospitals, private hospitals, and the central government all enhanced their use of supply chain management techniques with their suppliers. This study found that technology, communication, and supplier innovation practices were significant determinants of hospital supplier selection, which enhanced healthcare performance in developing countries	Priyanka et al., (2024), conducted their study in India, therefore creating a conceptual gap	The current study was conducted in Kenya to assess how supplier relationships affect performance of private hospitals
Osore et al., (2024)	Assessed how private hospitals in Uasin Gishu City County performance was influenced by supplier management practices	This study used a descriptive survey design as its design.	The findings of this study indicate that good supplier relationships improved that performance of private hospitals. The study indicated that Uasin Gishi, Kenya, has been able to make sensible decisions on priority and non-priority evaluations due to their supplier relationship.	Osore et al., (2024) failed to elaborate how study participants were selected.	Therefore, the current study provided a full description of how study participants would be sampled.

2.4 Conceptual Framework

The conceptual framework as indicated in Figure 1, provided the independent and the dependent variables on the left and right respectively. The independent variables included inventory management, logistic management, demand forecasting and supplier relationships. The performance of private hospitals was the dependent variable of the study.

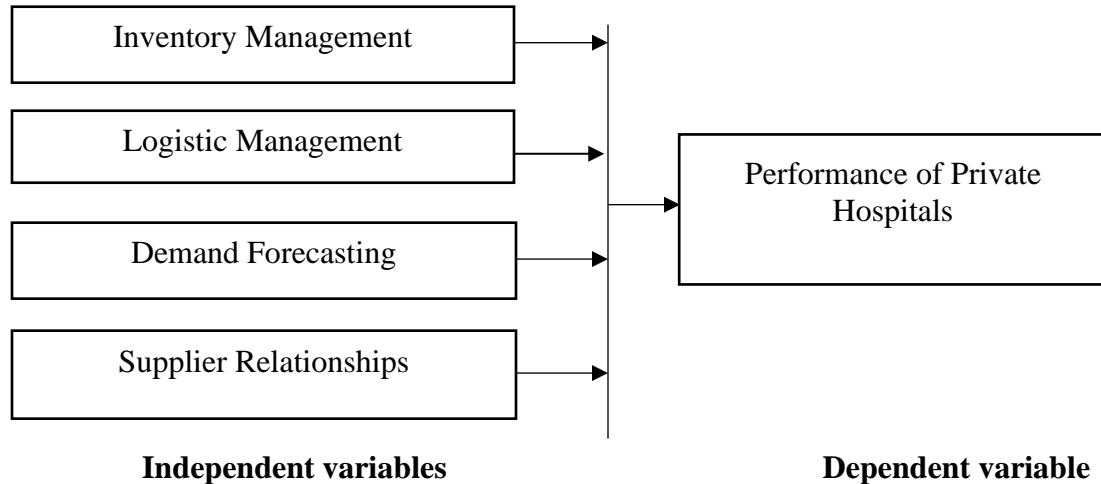
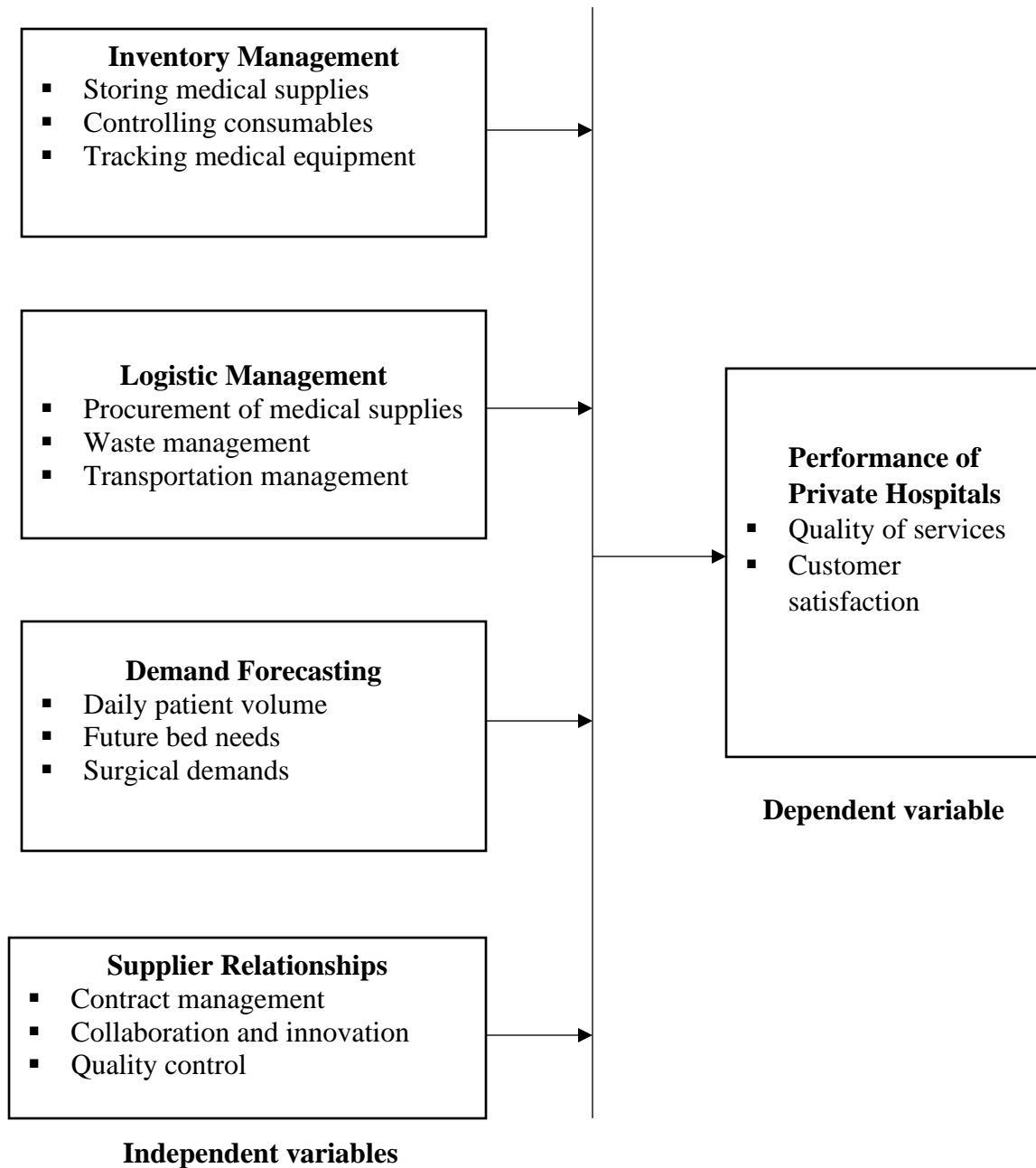


Figure 1: Conceptual Framework

Conceptual Framework

2.5 Operationalization of Variables



Source: Research Data (2025)

Figure 2: Operational Framework

Operational Framework

According to Figure 2, the performance of private hospitals was operationalized through quality of services and customer services. The inventory management was measured

through indicators such as storing medical supplies, controlling consumables, and tracking medical equipment. Further on, logistic management had indicators such as procurement of medical supplies, waste management and transportation management. In addition, demand forecasting had indicators such as daily patient volume, future needs and surgical demands. Additionally, the supplier relationships were also operationalized through contract management, collaboration and innovation and quality control.

2.6 Chapter Summary

The chapter addressed various theoretical backgrounds such as the resource-based view theory in guiding inventory management and logistics management variables; Contingency theory, in guiding demand forecasting; and stakeholder theory in guiding supplier relationships. Thereafter, the chapter provided different literature and a summary of gaps emanating from the review. A conceptual and operationalized framework was also provided to conclude the chapter.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter indicates the methods that were used by the study to collect, analyze and report data. It indicates the design, target population, sampling technique, instruments that were used to gather data, pre-testing and measures of validity and reliability, analysis and ethical considerations measures that were taken.

3.1 Research Design

The study adopted descriptive research design to measure the characteristics of the population without interfering with their operations (Ghanad, 2023). Consequently, this research design played a crucial role in determining how the study's variables, including inventory management, logistic management, demand forecasting and supplier relationships, are implemented.

3.2 Target Population

The study targeted 103 private hospitals in Kenya (MOH, 2023b). The target respondents included 103 procurement department heads and 380 supply chain officers. The procurement departmental heads were mainly involved in providing supply chain leadership for the entire staff working. Their contribution was relevant in pointing out some of the policies they had established and overall formulation of strategies.

The supply chain officers were also middle level management staff who provide supply chain supportive functions in the hospitals to keep them running. Their input was immense

since they provided views on how various leadership practices affected them in their workplaces. Table 2 indicates the target population.

Table 2: Target Population

Target Population

Respondents	Target Population
1. Procurement department heads	103
2. Supply Chain Officers	380
Total	483

3.3 Sampling Procedure

Sampling procedure is the process that is used to obtain a smaller population that can represent the larger group (Taherdoost, 2021). Simple random sampling was used to choose study participants. This method was appropriate since it gave them equal opportunity to take part in the study to provide a scientific approach that was inclusive.

3.3.1 Sample Size

In determining the sample size of both categories of respondents, Yamene (1967) formular was used, it is as follows

$$n = \frac{N}{1+N(e^2)}$$

Therefore, the sample size of healthcare staff was:

The sample size of procurement department heads was:

$$n = \frac{103}{1+103(0.05^2)}$$

n = 82 procurement department heads

The sample size of supply chain officers was:

$$n = \frac{380}{1+380(0.05^2)}$$

n = 195 supply chain officers

The sample size included 82 procurement department heads and 195 supply chain officers as shown in Table 3.

Table 3: Sampled Population

Sampled Population

Respondents	Target Population	Sampled
3. Procurement department heads	103	82
4. Supply Chain Officers	380	195
Total	483	277

3.4 Instruments

Quantitative data was gathered in this study through the use of the questionnaires. This questionnaire was closed-ended and contained Ordinal Likert Scale whereby 1- strongly disagreed, 2-disagreed, 3-neutral, 4- agree and 5- strongly agreed. The questionnaires were answered by all respondents. It had a total of seven sections where the respondents' background information was requested in the first part. The second to sixth sections had

questions related to inventory management, logistic management, demand forecasting and supplier relationships. The last section asked questions about the performance of the hospitals.

3.5 Pilot Study

A pilot study was carried out in Mama Lucy Public Hospital since it also experiences similar procurement issues affecting its performance just like in private hospitals. The pilot test respondents included 1 procurement departmental head and 5 supply chain officers. They were sampled using simple random sampling method.

3.5.1 Validity

According to Sürücü and Maslakçı (2020), when a questionnaire measures what it is supposed to measure is referred to as validity. The study tested content validity, through consulting the experts in procurement field to ascertain if the questions asked were valid.

3.5.2 Reliability Test

Reliability which is defined as the ability of a questionnaire to provide similar outcome when used seamlessly (Roebianto et al., 2023). To ensure this, the study assessed the internal consistency through the Cronbach Alpha coefficient. This is a method that has a range from 0 to 1 and reliability determined from results above 0.7.

3.6 Data Collection Procedure

Since the population under investigation was manageable, the researcher did not designate data gathering agents. The researcher went to the individual private hospitals on the day of data collection and asked to speak with the manager in charge. A brief introduction to the researcher and the study's purpose was communicated to the manager. Thereafter, the

researcher requested the authorization to collect data from various respondents. Immediately, after the authorization was granted, the researcher requested the manager to help in identifications of the respondents.

During the process of collecting data using questionnaires, the research participant's consent was obtained before distributing the questionnaires and thereafter gave them 20-30 minutes to fill in the questionnaires. This was to ensure that the questionnaire response rate was enhanced to promote efficiency. Once the respondents completed answering the questionnaires, they were appreciated, and the questionnaires were kept under lock and key in a secure location.

3.7 Data Analysis and Presentation

The analysis of quantitative data begun through sorting out incomplete questionnaires. Thereafter, the complete questionnaire's data was coded into SPSS version 26 for the analysis of descriptive statistics such as frequencies, percentages and mean. Thereafter, the results were presented using tables, figures and vivid explanations.

3.8 Ethical Considerations

3.8.1 Confidentiality

The study ensured the confidentiality of the respondents by not requiring them to provide their personal details in the questionnaires.

3.8.2 Consent

The respondents were also required to provide consent to the study to enable the researcher provide them with questionnaires when they agreed to take part in the study.

3.8.3 Full Disclosure

The respondents were provided with full information to understand why their involvement in the study was important towards the impact of strategic influence on hospital performance.

3.8.4 No Fabrication of Data

Additionally, the study made sure that the information utilized for analysis was collected from the respondents and no fabrication of data was done. In case of information use that was derived from past studies, it was cited and referenced accordingly to credit the authors.

3.8.5 Authorization to Collect Data

The researcher only went to the field once she was authorized to do so by the institution and not before. Additionally, request was made to the hospital management on the intention to collect data from their staff.

3.8.6 Interaction with Respondents

The researcher always used courteous language when communicating with the respondents and promptly answered their questions in a respectful manner.

3.8.7 Anonymity

The study also ensured that the identities of respondents was not disclosed when documenting the final report.

3.9 Chapter Summary

The approach that was employed throughout the data collection procedure was covered in detail in this chapter. It was observed that the descriptive research design was used for gathering information from private hospitals. Various respondents such as procurement department heads and supply chain officers were the respondents. They were selected

through simple random method and took part in answering the questionnaires. Additionally, pilot study details, validity and reliability tests were elucidated. Lastly, this chapter also included the data collection process, analysis, and ethical issues.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.0 Introduction

This chapter presents the findings to determine the influence of inventory management, demand forecasting, logistics management and supplier relationship on performance of private hospitals in Kenya. It covers reliability results, response rate, background information, diagnostic tests and descriptive statistics.

4.1 Presentation of Research Findings

4.1.1 Response Rate

The study sampled 82 procurement department heads, 195 supply chain officers. They were issued with questionnaires and the results are provided in Table 4.

Table 4: Response Rate

Response Rate

Respondents	Sampled	Response	Percentage
Procurement department heads	82	77	94%
Supply chain officers	195	187	96%
Total	277	264	95%

Table 4 indicates 77(94%) procurement department heads and 187(96%) supply chain officers responded to the study. The total response was 264(95%) hence signifying success of the study. According to Mugenda and Mugenda (2003), when a response rate was more than 70%, it signified that the study was successful.

4.1.2 Reliability Results

The study conducted a pilot study in Mama Lucy Kibaki Hospital. The pilot study's population was 1 procurement departmental head and 5 supply chain officers. Their responses enabled the study to examine reliability of the questionnaires as shown in Table 5.

Table 5: Reliability Results

Reliability Results

Instrument	Cronbach's Alpha
Inventory management	0.874
Logistic management	0.794
Demand forecasting	0.834
Supplier relationships	0.905
Performance of private hospitals	0.863
Average	0.854

Table 5 indicates that the Cronbach Alpha coefficients of various variables are as follows: Inventory management-0.874; logistic management-0.794; demand forecasting-0.834; supplier relationships-0.905; and performance of private hospitals -0.854. Notably, the average Cronbach Alpha coefficient was 0.854, which was more than 0.7. According to Nikmard et al. (2023), a coefficient between 0.7 and 1 suggests that the instruments are extremely reliable, whereas a coefficient less than 0.7 indicates that the instruments are unreliable. As a result, the questionnaires utilized in the study were reliable, as evidenced by their coefficient of 0.854.

4.1.3 Demographic Information

The respondents were requested to provide demographic data for the study, which involved their role in the hospital, work experience and the highest level of education. Figure 3 provides the result related to their role in the hospital.

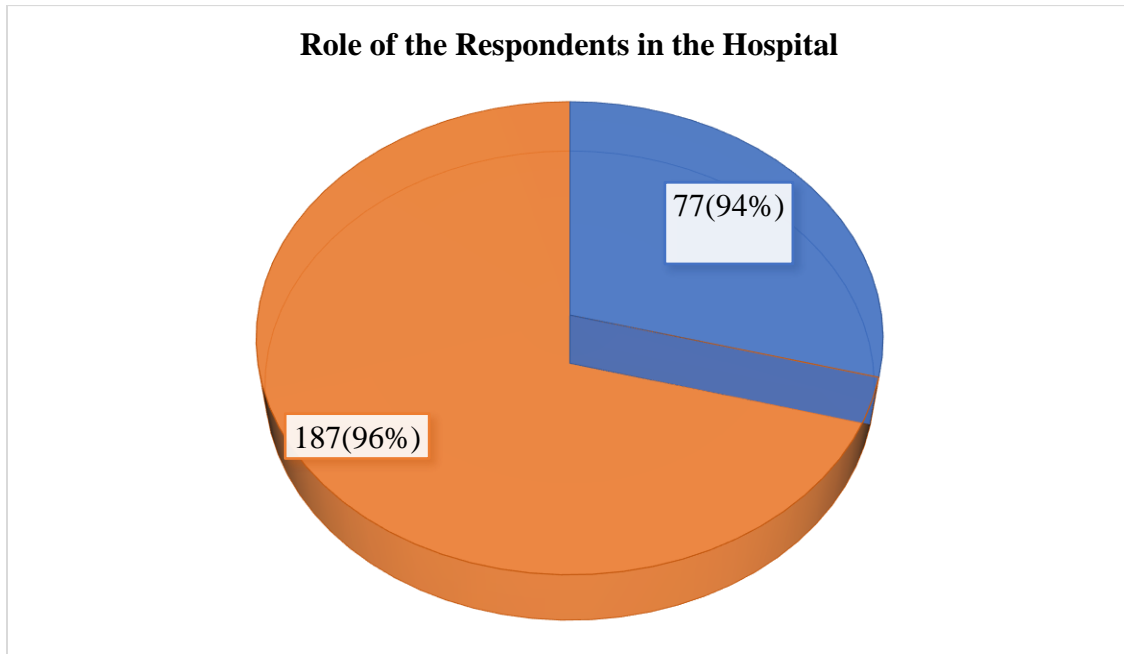


Figure 3: Role in the Hospital

Role in the Hospital

Figure 3 shows that 187(96%) supply chain management officers and 77(94%) procurement departmental heads responded to the study. This meant that most private hospitals had recruited qualified personnel to manage supply chain management processes in their institutions. There were both department heads to oversee the entire procurement process and officers to implement various practices related inventory management, demand forecasting, logistic management, and supplier relationships. In comparison, Habib et al. (2022) noted that the presence of adequate personnel performing different roles

in supply chain management, improved efficiency and coordination within a private hospital set-up.

Further, the study enquired the respondents to state their work experiences. Figure 4 provides the results.



Figure 4: Work Experience

Work Experience

Figure 4 shows that majority of the respondents 89(34%) had worked in their role for above 5 years, followed by 73(28%) who had worked for 4-5 years, 68 (26%) had worked for 2-3 years and only 34(13%) had worked for 1 year and below. The results meant that majority of the hospital staff in the procurement department were adequately experienced to manage

the supply chain management practices. Therefore, the hospital management had made sure that the supply management processes like storing medical supplies, controlling consumables, tracking medical equipment, procurement of medical supplies, and transportation management, were undertaken by qualified staff. Notably, Kabiro (2023) pointed out inventory management practices like procurement of medical supplies was effectively done through a series of developed management systems and adequately experienced staff.

Additionally, the survey asked participants to identify their greatest educational attainment.

Figure 5 provides the results.

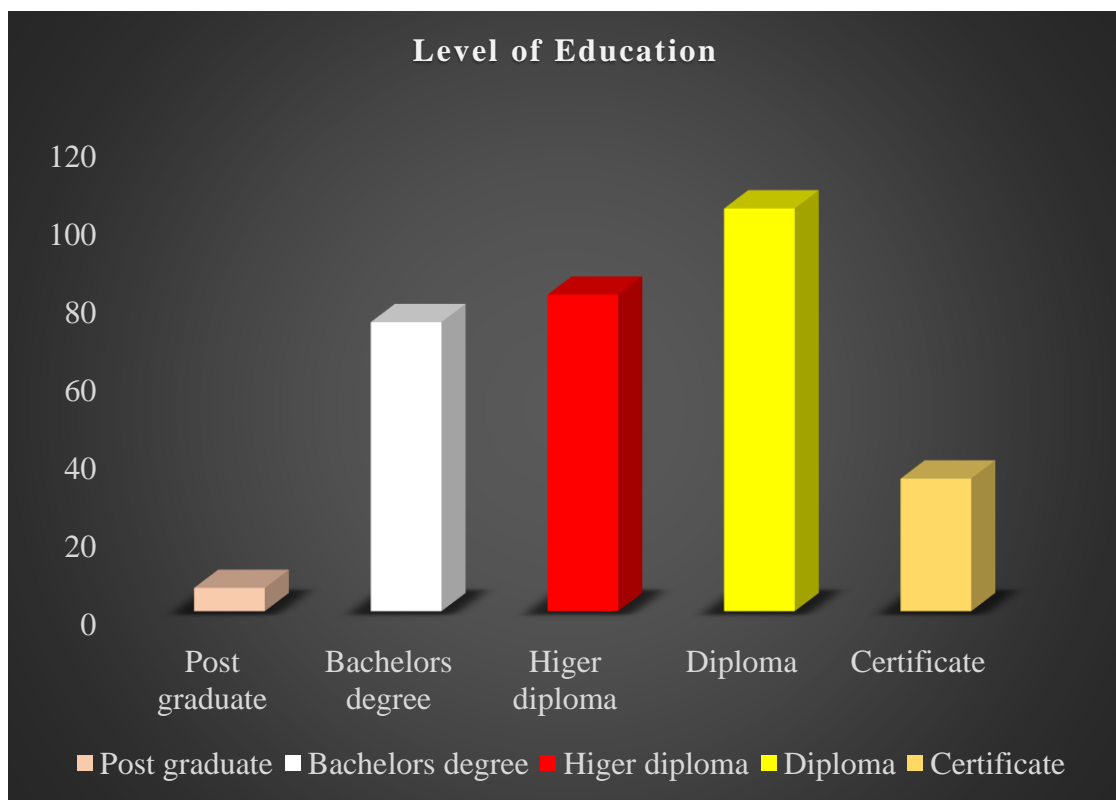


Figure 5: Level of Education

Level of Education

The majority of respondents 103(39%) had a diploma, while 81(31%), had a higher diploma, as seen in Figure 5. Only 6 (2% of the respondents) had a postgraduate degree as their greatest level of education, while 74 (28%) of the respondents had a bachelor's degree. Therefore, the results meant that the staff had attained both theoretical and practical knowledge to handle the issues that may arise in processes such as forecasting surgical demands, daily patient volume, contract management, and quality control. Additionally having the required educational background enabled the respondents make informed decisions that were aligned with procurement rules and regulations. In support of the results, Maingi (2022) also found out that as a result of Afya Ugavi Project recruiting qualified purchase and supplies staff, the integration of supply chain system was made possible, leading to improved healthcare performance.

4.1.4 Descriptive Statistics of Performance of Private Hospitals

This section's study aimed to investigate Kenya's private hospitals' performance. The indicators that were measured were the quality of services and customer services. The tables had an ordinal Likert scale, with 1 representing strongly disagree, 2 disagree, 3 neutral, 4 agree, and 5 strongly agree. Table 6 shows the results.

Table 6: Performance of Private Hospitals*Performance of Private Hospitals*

Statements	1	2	3	4	5	Mean	Std Dev
N=264							
Improved quality of service	10 (4%)	13 (5%)	40 (15%)	86 (33%)	115 (43%)	4.26	0.11
Customer satisfaction has been attained	117 (44%)	97 (37%)	30 (11%)	8 (3%)	12 (5%)	2.18	1.64
Inventory management has increased the performance	13 (5%)	12 (5%)	40 (15%)	103 (39%)	96 (36%)	4.16	0.29
Logistic management has increased the performance	11 (4%)	10 (4%)	121 (46%)	79 (30%)	43 (16%)	3.25	1.24
Demand forecasting has increased the performance	11 (4%)	15 (6%)	116 (44%)	81 (31%)	41 (15%)	3.19	1.24
Supplier relationships have increased the performance	10 (4%)	14 (6%)	120 (45%)	83 (31%)	37 (14%)	3.38	1.29

Table 6 reveals that, on a mean of 4.26 and standard deviation of 0.11, 115 (43%) of the respondents strongly agreed and 86 (33%) agreed that supply chain management strategies had enhanced service quality. Additionally, on a mean of 4.16 and standard deviation of

0.29, 103 (39%) and 96 (36%) of the respondents agreed and strongly agreed that inventory management had improved performance. However, on a mean of 2.18 and standard deviation of 1.64, 117 (44%) and 97 (37%) of the respondents strongly disagreed that the hospital's performance had improved as a result of achieving customer satisfaction.

The results meant that the services offered through the private hospitals were of high quality due to proper inventory management in the procurement department. There were organized storage of medicines, controlled consumables and tracking of medical equipment that reduced time wastage and confusion among the staff as they tracked hospital facilities. Nevertheless, the epitome of supply chain management was not yet achieved due to few lapses in the process that at times was beyond the control of the procurement staff. This included hospitals running out of medicine stock despite existence of a supply chains management systems, resulting to some customers not being efficiently served.

Comparatively, Mualuko et al. (2023) also discovered that despite Nyeri's private hospital staff being trained, there were institutional factors beyond them limiting them to deliver the desired outcome. Similar narrative was also shared by Muzerwa and Ndolo (2021) who noted that institutional factors such as low finances to purchase all the required medicine affected the implementation of the inventory management practices in Burundi's private hospitals.

4.1.5 Descriptive Statistics of Inventory Management

This section's study aimed to ascertain how inventory management affected Kenyan private hospitals' performance. The indicators that were measured included; storing medical supplies, controlling consumables, and tracking medical equipment. Table 7 provides the results.

Table 7: Inventory Management*Inventory Management*

Statements	1	2	3	4	5	Mean	Std Dev
N=264							
Availability of inventory management policies	10 (4%)	8 (3%)	31 (12%)	117 (44%)	98 (37%)	4.24	0.19
The consumables are efficiently controlled	8 (3%)	10 (4%)	39 (15%)	120 (45%)	87 (33%)	4.18	0.20
Tracking medical equipment is done	4 (2%)	7 (3%)	130 (49%)	78 (29%)	45 (17%)	3.18	1.28
The staff have been trained on inventory management	45 (17%)	52 (20%)	80 (30%)	30 (11%)	57 (22%)	3.26	1.10
Frequent meetings to point out inventory management concerns	105 (40%)	97 (37%)	47 (18%)	9 (3%)	6 (2%)	2.28	1.50

According to Table 7, the majority of respondents (98, or 37%) strongly agreed and 117, or 44 percent, agreed that there are inventory management regulations that govern how medical supplies should be stored. The mean score was 4.24, with a standard deviation of 0.19.

Interestingly, on a mean of 4.18 and standard deviation of 0.20, 120 respondents (45%) agreed and 87 respondents (33%) strongly agreed that the consumables were well controlled to improve their quality. On a mean of 2.28 and standard deviation of 1.50, however, 105 (40%) and 97 (37%) of the participants strongly disagreed that there were regular meetings to discuss inventory management issues.

The findings meant that the policy framework that was in place on regulation of how storage of medical supplies ought to be done, was present. Additionally, the efficient control of consumables was practiced with all quality assurance maintained within the procurement regulations. Nevertheless, the respondents noted that there were few meetings which gave the procurement staff a chance to provide various inventory management issues that were causing inefficiencies. Supporting the results Kagoya and Mkwizu (2022) revealed that one of the major milestones that enabled hospitals to effectively function, was based on the strength of both institutional and regulatory framework. This is because, the policies provided guidelines on how to manage medicine and other basic supplies.

4.1.6 Descriptive Statistics of Demand Forecasting

This section's study aimed to assess how demand forecasting affected Kenyan private hospitals' performance. The indicators that were measured included; daily patient volume, future needs and surgical demands. Table 8 provides the results.

Table 8: Demand Forecasting*Demand Forecasting*

Statements	1	2	3	4	5	Mean	Std Dev
N=264							
Daily patient volume is monitored	5 (2%)	8 (3%)	35 (13%)	89 (34%)	127 (48%)	4.31	0.22
There are procurement staff in charge of assessing the future bed needs	16 (6%)	13 (5%)	120 (45%)	76 (29%)	39 (15%)	3.35	1.33
Surgical demands are notified to the procurement on time to avoid lapses	10 (4%)	19 (7%)	20 (8%)	98 (37%)	117 (44%)	4.15	0.16
There are experienced staff	10 (13%)	12 (16%)	108 (29%)	93 (27%)	41 (15%)	3.36	1.34
Staff trained on demand forecasting.	95 (36%)	124 (47%)	31 (12%)	8 (3%)	6 (2%)	2.21	1.65

With a mean of 4.31 and standard deviation of 0.22, Table 8 reveals that the majority of respondents—127 (48%) strongly agreed and 89 (34%) agreed—that the procurement department provided a variety of resources based on the daily patient volume. Furthermore, with a mean of 4.15 and standard deviation of 0.13, 117 (44%) of the respondents highly agreed and 98 (37%) agreed that surgical demands were communicated to the procurement promptly to prevent delays during operations. However, with a mean of 2.21 and standard

deviation of 1.65, 95 (36%) and 124 (47%) of the respondents strongly disagreed that personnel received training on how to articulately forecast demand.

The outcome meant that there were quality monitoring and evaluation measures implemented to reduce wastage of resources through provisions of necessities based on the number of patients in need. This include notifying the surgical demands to the procurement department for adequate provision of surgery resources to minimize incidences of operations' lapses. However, despite such measures, the study discovered that staff were limited in articulating forecasting skills particularly in determining a supply chain demand. This was mainly due to low number of trainings on this specific skill among the procurement staff. Notably, Longilae and Wachiuri (2024) also pointed out on scarcity of quality demand and forecasting skills among the procurement staff. They therefore suggested frequent training and work-related exposure to staff to enhance demand forecasting skills.

4.1.7 Descriptive Statistics of Logistic Management

This section's study aimed to assess how logistics management affected Kenyan private hospitals' performance. The indicators that were measured included; procurement of medical supplies, waste management and transportation management. Table 9 provides the results.

Table 9: Logistics Management*Logistics Management*

Statements	1	2	3	4	5	Mean	Std Dev
N=264							
Procurement of medical supplies is done before they complete	5 (2%)	13 (5%)	27 (10%)	92 (35%)	127 (48%)	4.29	0.19
Waste management is practiced to avoid spread of diseases	10 (4%)	16 (6%)	119 (45%)	88 (33%)	31 (12%)	3.45	1.25
Transportation management is efficiently done	11 (4%)	9 (3%)	41 (16%)	86 (33%)	117 (44%)	4.12	1.20
Availability of logistic management software	13 (13%)	8 (16%)	100 (29%)	92 (27%)	51 (15%)	3.15	1.31
The departmental managers work as a team with supply chains officers	125 (47%)	98 (37%)	19 (7%)	12 (5%)	10 (4%)	2.23	1.60

With a mean of 4.29 and standard deviation of 0.19, Table 9 reveals that nearly half of the respondents—127 (48%) strongly agreed and 92 (35%) agreed—that the purchase of medical goods was done before they were finished. Furthermore, on a mean of 4.12 and standard deviation of 1.20, 117 (44%) strongly agreed and 86 (33%) agreed that hospital cars were an effective way to manage transportation. However, a mean of 2.23 and standard deviation of 1.60 indicated that 98 respondents (37%) disagreed and 125 respondents (47%) strongly disagreed that departmental managers collaborated with supply chains officials to plan and carry out logistics.

The results pointed out that the hospital management had developed a system where the buying of medicine was made before they ran out of stock and transported through hospital vehicles. However, there were inconsistencies in team work on planning and executing logistic. This at times brought about delays of delivery of medical supplies hence leading to poor implementation of procurement standards as per the hospital policies. Comparatively, Atiende and Ndolo (2025) noted that in the Kenyan medical supply chain, milestones made include successful incorporation of purchasing systems in most healthcare institutions. However, Atiende and Ndolo (2025) also noted working related wrangles between workers on similar job groups or even higher had caused inefficiencies in the supply chain management processes.

4.1.8 Descriptive Statistics of Supplier Relationships

The study in this section sought to establish the influence of supplier relationships on performance of private hospitals in Kenya. The indicators that were measured included; contract management, collaboration and innovation and quality control. Table 10 provides the results.

Table 10: Supplier Relationship*Supplier Relationship*

Statements	1	2	3	4	5	Mean	Std
	N=264						Dev
Contracts are provided to all suppliers	10 (4%)	13 (5%)	27 (10%)	89 (34%)	125 (47%)	4.23	0.21
Consistent collaboration and innovation with all stakeholders	8 (3%)	10 (4%)	119 (45%)	97 (37%)	30 (11%)	3.26	1.30
Quality control is ensured to get appropriate supplies.	13 (5%)	11 (4%)	30 (11%)	113 (43%)	97 (37%)	4.19	1.12
There are clear communication channels maintained	121 (46%)	79 (30%)	43 (16%)	10 (4%)	11 (4%)	2.34	1.52
vetting of new suppliers is done	11 (4%)	15 (6%)	116 (44%)	81 (31%)	41 (15%)	3.27	1.24

With a mean of 4.23 and standard deviation of 0.21, Table 10 reveals that 89 respondents (34%) agreed and 125 respondents (47%) strongly agreed that contracts were given to all

providers. Furthermore, 97 respondents (37%) strongly agreed and 113 respondents (43%) agreed that quality control was provided to obtain the right supplies, with a mean score of 4.19 and standard deviation of 1.12. On a mean of 2.34 and standard deviation of 1.52, however, 121 (46%) strongly disagreed and 79 (30%) disputed that there were open lines of communication to guarantee long-term relationships with suppliers.

It is notable that all suppliers were notified on time on various tendering contracts in place. Additionally, if they succeeded, the hospital promoted quality measures to get supplies that are of high value. Nevertheless, there were communication problems noted and which hampered the private hospitals' and suppliers' long-term connection. These problems related to the accurate day when their previous suppliers were to be paid, the amount and continued working relations over foreseeable period of time. Notably, Osore et al. (2024) also found out that one of the major problems facing both private and public hospitals in on maintenance of consistence working relations with the suppliers. Over time, the inability of the hospitals to keep up with supplies contracts on frequent communication on different stages of procurement, led to strained supplier management processes.

4.2 Limitations of the Study

As the nation is changing from the previous National Health Insurance Fund [NHIF] to the Social Health Authority [SHA], the management practices had changed significantly. Therefore, this means that the hospital management may have experienced a change on policies related to supply chains management when dispensing the hospital operations. To ensure that the limitation did not affect the data collection exercise, the study ensured that the current procurement policy in place was effectively adhered to.

Additionally, some respondents did not want to take part in the study due to the confidentiality policies in place that limited them to providing information to external parties. The researcher made sure management was informed about the data collection procedure first before distributing the questionnaires. If the management approved, then the researcher informed them same to the respondents to eliminate any doubts that they had.

4.3 Chapter Summary

At a response rate of 77 (94%) procurement department heads and 187 (96%) supply chain officers, this chapter has specifically addressed the questionnaire results. The positions, educational background, and job experience were then discussed along with how they linked to the study. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were then presented, first based on the performance of private hospitals and then on the particular supply chain management techniques covered in this study.

CHAPTER FIVE

SUMMARY, RECOMMENDATIONS AND CONCLUSIONS

5.0 Introduction

This last chapter of the thesis provides the summary of the results of the study, the conclusion and recommendations that provides a basis for practicality on implementation of supply chain management practices to enhance the performance of private hospitals.

5.1 Summary of Findings

5.1.1 Performance of Private Hospitals

According to the results of the questionnaires, the majority of respondents agreed that the use of supply chain management techniques had enhanced inventory control and general hospital services. Nevertheless, there were still problems that hindered the complete implementation of supply chain management, such as insufficient funds to buy consumables and medical supplies, which led to low customer satisfaction.

5.1.2 Inventory Management and Performance of Private Hospitals

The findings revealed that there were inventory management policies in place that supported supply management practices. The hospitals were also discovered that the private hospitals were able to control the quality of consumables to efficient inventory management. Nevertheless, were not satisfied with the few meetings being held at their hospitals to air out grievances related to inventory management issues.

5.1.3 Demand Forecasting and Performance of Private Hospitals

The results provided on demand forecasting revealed that the procurement departments had managed to minimize wastages of resources through adept provision of required resources such as surgical supplies, based on the patient numbers in need. There was however, training gaps noted among the supplies staff on how to accurately forecast a demand on resources.

5.1.4 Logistic Management and Performance of Private Hospitals

The questionnaire feedback provided by the respondents indicated that most private hospitals had ensured that purchases of medical supplies was done before the current stock extinguished. Additionally, they were transported through the hospital vehicles hence reducing transportation costs. Nevertheless, the study noted a disparity of planning and execution of logistics between the managers and the officers.

5.1.5 Supplier Relationships and Performance of Private Hospitals

The results pertaining supplier relationships noted that they were provided with contracts by the hospitals. The contracts provided details related to what they were to supply and quality measures expected. This enabled the private hospitals to acquire quality medical and non-medical supplies. That notwithstanding, there was a communication barrier between the private hospitals and the suppliers on key information such as when they were to be paid and the amounts, among other details.

5.2 Recommendations

1. The study suggests that private hospital administration necessarily needs to provide more avenues that the supplies chains management can discuss on the issues affecting the inventory management processes. This could be through physical departmental meetings or online platforms provided at least once per week.
2. Furthermore, the procurement staff should consider reaching out to departmental managers to provide any work dissatisfaction concerns, especially when they are a threat to the supply chains management process.
3. The senior management at the private hospitals should involve the junior officers in decision making process to enable them provide their professional opinions particularly on planning and execution of logistics.
4. The supply chain management staff should provide accurate and consistent information to the suppliers with regards to timelines of payment and amounts to minimize speculations. This will improve the supplier interaction with the hospitals.

5.2.2 Implications for Research, Policy, Practice/Training and Education

The field of purchasing and supplies will get current information on the current practices in place from the perspective of private hospitals. These practices relate to storage of supplies, tracking hospital equipment, procurement, waste and transportation management, demand forecasting, and management of supplier relationships.

The study notes that adherence to procurement policies and regulation is currently followed hence more appropriate frameworks need to be developed to manage training needs and worker relations to promote sustainability of the supply management processes.

Further, the implementation of techniques for supply chain management are anchored on the suitability of the staff in dispensing the process. Therefore, training is required for the staff, particularly in the area of demand forecasting of supply needs. The study's findings, when implemented in the procurement practice, will lead to informed, coordinated and collaborated work forces that are fully cognizant of procurement policies and regulations.

5.3 Conclusion

The general objective has been to examine the effect of supply chain management practices and performance of private hospitals in Kenya. The specific practices that were examined included inventory management, demand forecasting, logistics management and supplier relationship. There were procurement departmental heads and supply chain officers who answered closed-ended questionnaires. They observed that the performance of private hospitals was positively impacted by inventory management. This was because of the strong policy framework that guided on inventory management process and quality control measures put into place on medical supplies and consumables.

It was also noted that demand forecasting influenced performance by reduction of resource through adept provision of required resources such as surgical supplies, based on the patient numbers in need. Furthermore, the study noted that logistic management practices made it possible to purchase and transport medical supplies on time, hence reducing inefficiencies. Lastly, supplier relationships were discovered to be relevant towards improving the performance of private hospitals. The relevance of suppliers enabled hospitals to have alternatives of medical and non-medical supplies hence providing an avenue to consider costs, quality and quantities provided.

REFERENCES

- Abdel-Satar, S.I., Ragheb, M.A.S. & Ghanem, A.-N. (2022) The impact of change management on the quality of health service provided “the moderating role of change resistance”: Field study of Egyptian private and government hospitals. *Open Access Library Journal*, 9(8354), 1-15 <https://doi.org/10.4236/oalib.1108354>
- Alicke, K., Rachor, J., & Seyfert, A. (2021). Supply-chain recovery in coronavirus times: How to restart and rebuild stronger. McKinsey & Company. <https://www.mckinsey.com/business-functions/operations/our-insights/supply-chain-recovery-in-coronavirus-times-how-to-restart-and-rebuild-stronger>
- Anil, A., & Nisa, N. U.(2023). Understanding the need of regular staff training: A study of private hospitals in India. *Journal of Advanced Research in Social Sciences and Humanities*, 8(1),32-49. <https://dx.doi.org/10.26500/JARSSH-08-2023-0105>
- Atiende, M. J., & Ndolo, J. (2025). Transparent procurement practices and performance of medical supply chain in Kenya. *International Journal of Business and Management (IJBM)*, 4(1), 1–9. <https://doi.org/10.56879/ijbm.v4i1.64>
- Bilal, A.I., Bititci, U.S., Fenta, T.G. (2024). Challenges and the Way Forward in Demand-Forecasting Practices within the Ethiopian Public Pharmaceutical Supply Chain. *Pharmacy*, 12(86), 1-19. <https://doi.org/10.3390/pharmacy12030086>
- Freeman, R.E. (1984). *Strategic management: A stakeholder approach*. Pitman, Boston.
- Ghanad, A. (2023). An overview of quantitative research methods. *International Journal of Multidisciplinary Research and Analysis*, 6(8), 3794-3803. <http://dx.doi.org/10.47191/ijmra/v6-i8-52>

- Habanabakize, V., & Wabala, S. (2024). Influence of supplier relationship management on supply chain performance of Rwanda Medical Supply Limited. *Global Scientific Journals*, 12(2), 860-877. <https://www.globalscientificjournal.com/researchpaper/>
- Habib, Md. M., Chowdhury, F., Sabah, S., & Debnath, D. (2022). A study on hospital supply chain management. *American Journal of Industrial and Business Management*, 12(1), 806-823. <https://doi.org/10.4236/ajibm.2022.125042>
- Hallo, A. H., & Obuba, R. (2021). Assessment of career development on employee performance in private health sector in Isiolo County. *Asian Journal of Economics, Business and Accounting*, 21(21), 1-10.
<http://dx.doi.org/10.9734/AJEBA/2021/v21i2130514>
- Kabiro, W. (2023). Inventory management practices and supply chain performance among private hospitals in Nairobi, Kenya [Master's Thesis, University of Nairobi]. Kenya. <https://erepository.uonbi.ac.ke/bitstream/handle/11295/166766/>
- Kagoya, S.M., & Mkwizu, K.H. (2022). E-logistic practices and health care supply chain management for public referral hospitals in Uganda. *University of Dar es Salaam Library Journal*, 17(1), 72-90. <https://dx.doi.org/10.4314/udslj.v17i1.6>
- Kalita, A., Carton-Rossen, N., Joseph, L., Chhetri, D., & Patel, V. (2023). The barriers to universal health coverage in India and the strategies to address them: A key informant study. *Annals of Global Health*, 89(69), 1-11.
<https://doi.org/10.5334/aogh.4120>
- Longilae, P.E., & Wachiuri, E. (2024). Demand forecasting and performance of Kenya Medical Supplies Authority. *International Journal of Social Sciences Management and Entrepreneurship*, 8(4), 160-171.
<https://www.sagepublishers.com/index.php/ijssme/article/view/729>

- Maingi, F.N. (2022). Integration of supply chain system and healthcare performance: A case of Afya Ugavi Project, Migori County Kenya [Master's Thesis, University of Nairobi]. Kenya. <https://erepository.uonbi.ac.ke/handle/11295/162311>
- Masudin, I., Kurniati, N., & Rahman, A. (2021). Supply chain performance of pharmaceutical products: A systematic literature review. *Journal of Supply Chain Management Science*, 12(1), 45-61
- Ministry of Health (2023). State department for public health and professional standards: Strategic plan 2023 – 2027. <https://www.health.go.ke/sites/default/files/2024-10/DRAFT%20STRATEGIC%20PLAN%202023-2027%20SDPH%26PS%20Sept%2027-4.pdf>
- Ministry of Health (2023b). Kenya health facility census report. <https://www.health.go.ke/sites/default/files/2024-01/Kenya%20Health%20Facility%20Census%20Report%20September%202023.pdf>
- Mualuko, J., Rintari, N., & Moguche, A. (2023). Effect of training and development on employee productivity in private hospitals in Nyeri County, Kenya. *Cari Journal*, 8(1), 29-39. <https://doi.org/10.47941/hrlj.1325>
- Mugenda, O. M., & Mugenda, A. G. (2003). Research methods, quantitative and qualitative approaches. ACT
- Muhindo, C., & Rwakihembo, J. (2021). Inventory management and financial performance of private hospitals: A positivist evidence from Western Uganda. *International Journal of Business Strategies*, 6(1), 24-25. <https://www.academia.edu/113775951/>
- Muzerwa, P., & Ndolo, J. (2021). Analysis of inventory management practices and performance of private hospitals in Burundi: A Case of Kira Hospital, Bujumbura.

Journal of Supply Chain Management, 8(1), 1-8.
<https://researchjournali.com/view.php?id=5588>

Nikmard, F., Tavassoli, K., & Pourdana, N. (2023). Designing and validating a scale for evaluating the sources of unreliability of a high-stakes test. *Language Testing in Asia*, 13(2), 1-19. <https://doi.org/10.1186/s40468-023-00215-7>

Oketch, P., Wanjiru, C., & Maina, J. (2022). The influence of transparent procurement on medical supply chain performance in Kenya. *East African Health Journal*, 9(1), 54-68.

Osore, R.A., Osoro, A., & Miroga, J. (2024). Supplier management practices and performance of private hospitals in Uasin Gishu City County, Kenya. *International Journal of Social Sciences Management and Entrepreneurship*, 8(4), 863-873. <https://sagepublishers.com/index.php/ijssme/article/view/799>

Owuor, C. A. (2024). Factors that influence the uptake of corporate governance practices in mission Hospitals in Nairobi County, Kenya [Master in Business Administration, Strathmore University] Kenya. <http://hdl.handle.net/11071/15557>

Priyanka S. P., Srikantha, D., & Kumar, S. (2024). Enhancing the hospital performance through strategic implementation of supplier relationships and evaluations in real-time sector-specific problems in developing countries. *Educational Administration: Theory and Practice*, 30(4), 1354-1364.
<https://kuey.net/index.php/kuey/article/view/1669>

Roebianto, A., Savitri, I., Sriyanto, A.S., & Syaiful, I. A. (2023). Content validity: Definition and procedure of content validation in psychological research. *TPM – Testing*, 30(1), 5-18. <http://dx.doi.org/10.4473/TPM30.1.1>

- Subramanian, L. (2021). Effective demand forecasting in health supply chains: Emerging trend, enablers, and blockers. *Logistics*, 5(12), 1-21. <https://doi.org/10.3390/logistics5010012>
- Sürücü, L. & Maslakçı, A. (2020). Validity and reliability in quantitative research. *BMIJ*, 8(3), 2694-2726. <http://dx.doi.org/10.15295/bmij.v8i3.1540>
- Taherdoost, H., & Madanchian, M. (2021). Determination of business strategies using SWOT analysis; Planning and managing the organizational resources to enhance growth and profitability. *Macro Management & Public Policies*, 3(1), 19-22. <https://doi.org/10.30564/mmpp.v3i1.2748>
- USAID (2024). The state of Kenya's health market-2024. <https://khf.co.ke/wp-content/uploads/2024/09/The-State-of-Kenyas-Health-Market-2024-Assessment-Report.pdf>
- Vroom, V. H., & Jago, A. G. (1978). On the validity of the Vroom-Yetton model. *Journal of Applied Psychology*, 63(2), 151–162.
- Warui, P.W., & Kavale, S. (2024). Organizational learning and performance of mission hospitals in Kenya. *The Strategic Journal of Business & Change Management*, 11(2), 993 – 1006. <http://dx.doi.org/10.61426/sjbcm.v11i2.2965>
- Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal*, 5(2), 171-180. <https://doi.org/10.1002/smj.4250050207>
- Winkelmann, J., Webb, E., Williams, G.A., Hernández-Quevedo, C., Maier, C.B., & Panteli, D. (2021). European countries' responses in ensuring sufficient physical infrastructure and workforce capacity during the first COVID-19 wave. *Health Policy*, 126(5), 362-372. <https://doi.org/10.1016/j.healthpol.2021.06.015>.

Zungu, L. (2022). Strategic leadership and change management imperatives in a volatile era: A case study of prince Mshiyeni Memorial Hospital Knowledge [Master in Business Administration, University of Kwazulu-Natal]. South Africa.
<https://hdl.handle.net/10413/22600>

APPENDICIES

APPENDIX I: LETTER OF INTRODUCTION



Date: 20th March 2025

TO WHOM IT MAY CONCERN

LUCY MUTINDI MUTUKU- ODLBML/31/01721/3/23

This letter serves to introduce the above named who is a **Bachelors of Management and Leadership (BML)** student and is interested in carrying out research on Supply Chain Management Practices and Performance of Private Hospitals in Kenya. A Case Study of Private Hospitals in Nairobi-Kenya

Any assistance accorded to her in pursuit of this study will be greatly appreciated.

Yours Sincerely,

Dr. Juster Nyaga

Dean, School of Management and Leadership



APPENDIX II: RESEARCH STUDY QUESTIONNAIRE

This is a closed-ended questionnaire that requires ticking on available spaces based on where you feel your opinion lies. Please tick as honestly as possible.

SECTION A: DEMOGRAPHIC INFORMATION

1. What is your role in this hospital?

- a) Departmental head []
- b) Supply chains officer []

2. How long have you served in your capacity?

- a) Above 5 years []
- b) 4-5 years []
- c) 2-3 years []
- d) 1 year and below []

4. What is your highest education Level?

- a) Postgraduate Degree []
- b) Bachelor's Degree []
- c) Higher Diploma []
- d) Diploma []
- e) Certificate []

SECTION B: INVENTORY MANAGEMENT AND PERFORMANCE

Please tick the area in this section where you believe inventory management has an impact on Kenyan private hospitals' performance. Key: 1- strongly disagreed, 2- disagreed, 3-neutral, 4- agree and 5- strongly agreed.

No	Statement	1	2	3	4	5
1.	The are inventory management policies that regulate on how					

	the storage of medical supplies should be done					
2.	The consumables are efficiently controlled to enhance their quality					
3.	Tracking medical equipment is done to ascertain the property of the hospital.					
4.	The staff have been trained on inventory management					
5.	There are frequent meetings to point out inventory management concerns					

SECTION C: LOGISTIC MANAGEMENT AND PERFORMANCE

Please tick the area in this section where you believe inventory management has an impact on Kenyan private hospitals' performance.

No	Statement	1	2	3	4	5
1.	Procurement of medical supplies is done before they complete					
2.	Waste management is practiced to avoid spread of diseases					
3.	Transportation management is efficiently done					

	through hospital vehicles					
4.	The hospital has logistic management software to manage various movements of goods					
5.	The departmental managers work as a team with supply chains officers when planning and executing logistics					

SECTION D: DEMAND FORECASTING AND PERFORMANCE

Please tick the boxes in this area that best reflect your thoughts on how demand forecasting affects Kenyan private hospitals' performance.

No	Statement	1	2	3	4	5
1.	Daily patient volume is monitored to provide various resources from the procurement department					
2.	There are procurement staff in charge of assessing the future bed needs					
3.	Surgical demands are notified to the procurement on time to avoid lapses during operations.					
4.	There are experienced staff					

	whose role is to ensure that all demands are forecasted on time.					
5.	Staff are provided with training on how to forecast a demand articulately.					

SECTION E: SUPPLIER RELATIONSHIPS AND PERFORMANCE

Please tick the boxes in this area that best reflect your thoughts on how supplier connections affect Kenyan private hospitals' performance.

No	Statement	1	2	3	4	5
1.	Contracts are provided to all suppliers					
2.	There has been consistent collaboration and innovation with all stakeholders					
3.	Quality control is ensured to get appropriate supplies.					
4.	There is clear communication channels maintained to ensure relationships with suppliers is maintained for a long time.					
5.	We vet new suppliers to ensure that they have the quality and					

	quantities of the hospital demands					
--	------------------------------------	--	--	--	--	--

SECTION F: PERFORMANCE OF PRIVATE HOSPITALS

In this section, please tick where you feel on performance of private hospitals in Kenya.

No	Statement	1	2	3	4	5
1.	Quality of services have improved due to supply chain management practices					
2.	Customer satisfaction has been attained leading to improved performance of the hospital.					
3.	Inventory management has increased the performance					
4.	Logistic management has increased the performance					
5.	Demand forecasting has increased the performance					
6.	Supplier relationships have increased the performance					

APPENDIX III: INFORMED CONSENT FORM

I am a student pursuing a degree of Bachelor of Management and leadership (Purchasing and Supplies) at the Management University of Africa. I am working on a research project right now on “*Supply Chain Management Practices and Performance of Private Hospitals in Kenya.*” In order to help achieve the study's goal, I am requesting your participation in the study by having you honestly and accurately respond to the questions on the questionnaire. The questionnaire answers will be utilized exclusively for this study, which will be turned in to the university to partially satisfy the course's academic requirements.

Lucy Mutindi Mutuku

ODLBML/31/01721/3/23

APPENDIX IV: RESEARCH STUDY WORKPLAN

Research Activities	Feb- March 2025	Apr - May 2025	Jun - July 2025	Jul- Aug 2025
Proposal documentation and presentation				
Data Collection				
Documentation of chapter 4 & 5				
Presentation of results and findings				

APPENDIX V: BUDGET

S/No.	Item description	Cost (KES)
1	Stationery	5,000
2	Internet	20,000
3	Transport	20,000
4	Meals	10,000
5	Typing, printing and photocopying	15,000
6	Data analysis	5,000
Total		75,000